

DOCUMENT RESUME

ED 292 456

IR 013 208

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 TITLE Instructional Development: The State of the Art. Chapter 13.
 PUB DATE 78
 NOTE 17p.; In: Instructional Development: The State of the Art. Volume 1, 1978; See IR 013 196. For chapter 5, see ED 144 587.
 PUB TYPE Information Analyses (070) -- Viewpoints (120)
 EDRS PRICE MF01/PC01 Plus Postage.
 DESCRIPTORS *Change Agents; *Educational Change; *Educational Technology; *Instructional Development; *Instructional Improvement; Professional Development; State of the Art Reviews
 IDENTIFIERS *Association for Educational Communications Tech

ABSTRACT

This discussion of the current state of the art in the field of instructional development includes an integration of the points made by the authors of Chapters 1-12 in the book, "Instructional Development: The State of the Art, Volume 1," together with additional material. A discussion of professional organizations, journals, and training programs is presented, and a list of instructional materials for preparatory programs is provided. The issues involved in funding, location of jobs within organizations, and the present state of instructional development within public and higher education are examined, and factors affecting the impact of instructional development on education and industry are identified. A theory of impact is developed, and the impact of the above mentioned issues upon the future of instructional development is discussed in terms of this theory. A 42-item bibliography is provided.
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CHAPTER XIII

INSTRUCTIONAL DEVELOPMENT: THE STATE OF THE ART

By

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Interest in technologized instruction in general, and in instructional development in particular, has increased greatly during the last several decades (Durzo¹; Lumsden, 1975). The accountability movement of the late 1960's and early 1970's, begun perhaps by instructional developers themselves, has provided much of the sustaining impetus of the movement towards a science of instruction. Numerous institutions of higher education have moved to meet the learning needs of aspiring instructional developers by taking advantage of the large amount of federal support available for training programs in the field. It is probably safe to say that many of those in our field today are instructional developers because ours was a field receiving strong financial support at the very time today's professionals were considering doctoral work (Durzo).

Then, as now, the field was fraught with dissension regarding what type(s) of program(s) should "father" instructional developers. Should instructional developers be products of educational psychology departments with some emphasis on educational media and related areas, or should they be products of educational media departments with some emphasis on educational psychology and other related areas? Because there are sound arguments supporting each position, it seems appropriate and logical that both fields should train instructional developers, with federal support being provided to both types of programs.

Far more important than when, where, or why the move towards the use of instructional developers began is the fact that an increasing number of universities, community colleges, public schools, health education facilities, businesses, and industrial firms are employing instructional developers in key positions in their training programs.

The instructional development concept has gained credibility, but has done so without the benefit of a clear understanding within the ranks of our clientele or, as has been mentioned in earlier chapters,

¹Citation without publication date refers to previous chapters of this book.

without a clear understanding, even among ourselves, of the nature of instructional development (Davies and Schwen, 1971). It is clear that one task which must be undertaken right away is that of defining ourselves, using such concepts as instructional development, faculty development, curriculum development, organizational development, and educational development (Braden and Terrell; Silber, 1977a). We must, then, take whatever steps are appropriate to help our clientele understand the meanings of, and the interrelationships among, these concepts.

Professional organizations have taken notice of those involved in instructional development, and special interest groups are being formed around the country. The Association for Educational Communication and Technology (AECT), for example, is the parent organization of the largest and most influential of these special interest groups, the Division of Instructional Development (DID). In just a few years this division has become one of the most prominent of the special interest groups within the AECT.

Communication among instructional developers, both on a person-to-person basis and through written communication, has been a prime objective of DID. DID programs at the annual AECT convention have in the last several years been the largest, the most impressive, and the best attended sessions of the convention, with many outstanding speakers and numerous opportunities for interaction at all levels of instructional development. Thus, the need for increased face-to-face communication is being partly met at least for one week each year, but only for those who are able to attend the divisional meetings of the AECT convention.

The written communications problem has been a more difficult one to solve. The Division of Instructional Development began its written communications effort with the DID Newsletter, a quarterly publication presenting information concerning DID business matters. The need for more detailed information regarding specific ID activities fostered the "DID Occasional Paper" series; these were published as manuscripts and funds became available. This publication carried the burden of the professional ID communications effort. There were, of course, articles in other professional journals such as the *AV Communication Review*, *Educational Technology*, *Instructional Science*, and others; but no journal totally devoted exclusively to the field emerged until the *Journal of Instructional Development* was first published by DID in the fall of 1977. Although the inauguration of this journal signaled the coming of age of the Division of Instructional Development, it does not, in our opinion, solve all of our formal communication problems. Interest in, and professional involvement with, instructional development is more than adequate to support at least one additional journal in the field (Silber, 1977b).

INSTRUCTION OF INSTRUCTIONAL DEVELOPERS

Through its committee on certification, the Division of Instructional Development is presently attempting to deal with the processes of definition and differentiation affecting instructional, faculty, and organizational development. The committee is attempting to identify those competencies required of instructional developers, those tasks in which instructional developers are most frequently involved, and methods by which professionals might be trained to fill the instructional developer role. Although this is an essential and ambitious effort, and one which will go far towards furthering professionalization of the field, the effort will inevitably fail if the critical area of interpersonal communication skills is left unattended or ill-defined. Attributes of successful instructional developers in the interpersonal communications area must be observed and described. Appropriate efforts must be made to insure the incorporation of training in this area into all programs which purport to train instructional developers (Duncan; Lawrason).

Instructional developers are still being trained in academic programs which are associated with departments of educational media and with departments of educational psychology. Unfortunately, not all training programs are doing an adequate job. Many programs are graduating "instructional developers" who, in reality, are educational media specialists (in much the same way that libraries are becoming "learning resource centers" by means of a simple name change alone). Many programs are graduating "instructional developers" who are well trained in learning theory, but who have virtually no experience or training in the design and production of instructional materials. Many programs are graduating "instructional developers" who know the language of instructional development, but who are incompetent in real-life situations requiring the applications of practical skills. Many programs provide no opportunities for their students to engage in field experiences. Much effort, indeed, must be expended if these weaknesses in the profession are to be corrected.

INSTRUCTIONAL MATERIALS FOR TEACHING INSTRUCTIONAL DEVELOPMENT

Another problem associated with the preparation of instructional developers involves both the quantity and quality of instructional materials available for use in the teaching-learning process (Colton). Our exposure to available instructional materials has revealed many excellent single units which can be effectively utilized in the instructional process, but we have not been able to locate any packaged materials which can do the complete teaching job alone. Most materials we have evaluated use either the written format or follow the audio-visual approach, but do not include both in significant amounts. Most materials take a philosophical or textbook approach to instructional

design, but contain very few practical instructions concerning how to actually carry out the instructional design process.

One instructional system with which the authors are familiar, *Learning Systems Design* (Davis, et al., 1974), makes an attempt to provide a multi-media approach to instructional development using a combination of printed materials, filmstrips, and audio tapes. We found the text to be excellent and well-liked by students. But we found the filmstrip and audio tape portions to be of far less value. Only a few of the filmstrips and tapes significantly enhanced student learning, and apparently little care was given to controlling the quality of their production.

The teaching of a course in instructional development at the University of Florida has necessitated the integrated use of the following materials in order for the students to attain criterion performance:

1. A text; *Learning Systems Design* (Davis, et al., 1974);
2. Portions of selected filmstrips and audio tapes from *Learning Systems Design* (Davis, et al., 1974);
3. Portions of the filmstrip-audio tape series, "Designing Effective Instruction" (General Programmed Teaching, 1970);
4. Portions of filmstrips, audio tapes, and printed materials from "Criterion Referenced Instruction" (Mager, 1974);
5. Portions of "Teacher Competency Development Systems" (Prentice-Hall, 1973);
6. References to such works as:
 - (a) *Systems Approach For Education* (Corrigan Associates, 1971);
 - (b) *Systems Engineering of Training* (U.S. Army, 1972);
 - (c) *Job Training Course Design and Improvement* (Rundquist, 1970); and
 - (d) *Handbook for Designers of Instructional Systems* (U.S. Air Force, 1973).
7. Oral presentations (delivered by the course instructor and guest lecturers) on the practice of instructional development; and
8. Supervised field experiences.

PLACEMENT IN ORGANIZATIONAL STRUCTURE

What types of jobs are trained and credentialed instructional development graduates likely to receive? The answer is that these jobs are extremely varied (Bratton; Druzo).

In universities three patterns seem to be emerging. First, individual schools and colleges are employing instructional developers to serve their entire unit. Second, central units are employing instructional developers

to serve the entire university. Third, many universities are employing both approaches.

In junior and community colleges the patterns are similar to those in universities. The most common pattern is that of a central unit serving the entire college. Generally this unit is associated closely with the office of the academic dean and in some cases, in order to add power to the position, the director of the instructional development unit is given the title of Associate Dean for Instructional Development. In some schools there is a movement toward the employment of instructional developers within each department. These developers are usually faculty members with subject matter expertise that is appropriate to the department and instructional development skills.

In the few cases where instructional development has been utilized in any formal sense in the public schools, it has been applied on an individual school basis and has generally been the charge of the vice-principal for curriculum or instruction.

Within business and industry, instructional developers are typically employed in the capacity of training officers serving the entire company or specific corporate divisions. These instructional developers are responsible for both product and staff development at all levels of organizational training.

FUNDING

The funding patterns for instructional development activities are somewhat perplexing to us because the advancement of instructional development may be conceived as a task involving the diffusion of innovations. Yet in most instances, none of the funding practices appropriate to diffusion are being employed (Durzo). If an innovation is to be promoted, several conditions are important to its diffusion and assimilation (Rogers and Schoemaker, 1971). Not the least of these conditions are the relative worth of the innovations when compared with what they are changing, improving, or replacing.

In those institutions in which clients must pay for their instructional materials, these two critical conditions remain, more often than not, unfulfilled. Furthermore, this applies even to those schools in which the time of the instructional development specialist is provided without charge. What is needed is a sufficient commitment on the part of the institutional administration to the concept of the systematic design of instruction and confidence in the instructional developer. Within reason, financial support should be provided for whatever materials (innovations) are required in order to provide the best possible instructional systems for the students being served.

Another funding problem affecting instructional development involves the use of federal funds (Bratton). Federal funds are available for the initial development of materials, but they are generally unavailable for the later redesign and further validation of the materials. The federal government should either provide funding for the entire process of the systematic design of instruction, or it should require that the agency to which the grant is awarded commit itself to the completion of the process originally undertaken with federal "seed" money.

IMPACT AND THE FUTURE

At this point it seems appropriate to address issues affecting the future of instructional development. And there is at least one issue which will remain central to our work as long as we remain a professional group. The issue concerns the impact of what we are doing. We can improve product design. We can improve the match between personality characteristics of the student, the faculty, and instructional materials. But unless the actual practice of instruction is significantly effected by what we do, all our improved technology is virtually worthless (Hoban, 1974; Braden and Terrell).

It is important that we be clear concerning the nature of impact. Impact implies effect. An object, or process, has impact upon some other object or process if it produces an effect (a change) upon that object or process. This effect may, of course, be either beneficial or deleterious. The effect may be in the form of a change, or it may represent a maintenance of the status quo in a situation in which there would otherwise be a change. In each of these instances there is impact.

The achievement of impact has been central to most of the discussions included in the present volume. Impact is central to the arguments of Braden and Terrell. The measurement of impact is central to the work of Bratton and Durzo. Abedor and Sachs have examined some of the strategies for achieving impact. And Wilson, Colton, Osterman, Duncan, and others have gone to great lengths to identify and explore ways by which our impact as instructional developers may be increased. Impact, then, is clearly central to the advancement of our profession.

CONSIDERATIONS IN A THEORY OF IMPACT

The full development of a general theory of impact is indeed an ambitious, but essential, task. Therefore, we should be at least aware of certain salient elements of such a theory insofar as these elements influence the impact our profession is potentially capable of making.

These elements appear to include the following (Weissenberg, 1971):

1. An educational system normally exists as a balanced conglomerate of forces;
2. As long as these forces remain in balance, no impact can occur; the system is in a steady-state condition;
3. Any change in one or more of these forces results in an unbalanced system; and
4. The elements of an unbalanced system always attempt to reach a state of balance; they do not usually attempt to return to the original state of balance, however, but reach the "easiest" position of balance possible.

In order to achieve impact, then, an element must produce an effect within the system while the system is in a state of imbalance or while it is becoming imbalanced. This can be done in any one of three ways (Smith, 1969):

1. The element can assist the system in maintaining its original state of balance, by resisting the forces tending to produce change;
2. The element can assist an imbalance to occur by adding to those forces already tending toward the production of the imbalance; and
3. The element can assist in the re-establishment of a system-wide balance within some new configuration.

Within the more limited context of small group interaction, Kurt Lewin has called these three types of action *unfreezing*, *changing*, and *refreezing* (Cartwright and Zander, 1953).

PRESENT STATE OF THE AMERICAN EDUCATIONAL SYSTEM

The question facing us today is whether or not the American educational system is in a balanced or unbalanced state. A related question is whether or not instructional developers can effect, or have impact upon, this condition of balance or imbalance. Another way of stating the question is to ask whether or not there are identifiable phenomena which are tending to alter the nature of the American educational system, and whether or not we can restrain changes we consider undesirable or facilitate changes we consider desirable.

Clearly there are many forces, both internal and external to the American educational system which are tending to modify it. A few of these forces of change include the increasing costs associated with education (Mandell, 1977), decreasing achievement of students on national achievement tests (Savage, 1978), increasing social turmoil in our schools (*Time*, November 4, 1977 and January 23, 1978), the decrease in authority of

teachers over their students, and an increasing understanding of the processes of education among psychologists, anthropologists, and sociologists. All these forces are tending to bring about changes in the balance of forces operating in the educational system. Some of these changes may be viewed as desirable, whereas others may be seen as undesirable (Fantini, 1977; Swan, 1977; *Time*, January 9, 1978).

ESTABLISHING A NEW EQUILIBRIUM

If instructional development programs are to achieve a greater impact in the future than they have in the past, they must assist the educational system to reach a new equilibrium, one in which the various forces tending toward imbalance are balanced again. But before instructional development programs can achieve much in the way of balancing these forces — or of unbalancing them in productive ways — certain conditions must be met:

1. We must know how to solve the problems presented by the forces we wish to effect;
2. Those who occupy key positions within the system must be aware of our proposed solutions;
3. These key people must view our solutions as the ones of choice;
4. These people must make available to us the resources we need to implement our solutions; and
5. These key people must give us the additional support (material and non-material) we need to enable us to implement and maintain our solutions.

If we examine the current state of instructional development in terms of each of these five conditions, we can see at least in outline form the emerging future of our profession.

INSTRUCTIONAL DEVELOPMENT SOLUTIONS TO EDUCATIONAL PROBLEMS

Does instructional development have solutions to the problems confronting today's educators? In many instances, yes. For example, Osterman, Colton, Thiagarajon (1974), and Basco (1976) have rather clearly demonstrated this. We have available today a technology of instruction which has been refined over and over in various situations so that now we know that it is effective.

Equally clear, however, is the fact that this technology has achieved only a limited impact compared to the potential impact it is capable of making (Oettinger and Marks, 1969). It has had little effect, if any, upon educational systems outside the university, the military, and the

community college. Even within these systems, the impact of instructional development has been quite limited. Why is this? Partly because we still do not know how to design effective learning materials for use in all possible types of educational settings. We do not know how to design effective learning materials for pre-school children. We do not know how to design effective materials for the achievement of cognitive and moral developmental stages as conceived by excelling Kohlberg (1972) or Piaget (Pulaski, 1971).

There is no valid reason to believe the claim (put forth by Kohlberg and Mayer (1972) and others) that our lack of impact is rooted in a basic deficiency in the conceptual underpinnings of our technology. Rather, the reasons are much more likely to be found in our failure to thoroughly satisfy the five conditions listed above.

Most educators today are unaware of the solutions we can offer. They are perhaps even more unaware of our technologies for generating new solutions (Duncan). On the university level this manifests itself in a belief that there are good and poor students, and that poor students are so because they either don't apply themselves or they aren't bright enough to master content. Thus on the university level there is a wide-spread belief that a technology which can significantly improve teaching does not exist, or that such improvement is not needed even if it does exist since it will only benefit those who should not be in college in the first place (Bratton).

On the elementary and secondary levels even fewer educators are aware of what instructional development has to offer. One of the reasons for this might be found in the almost total absence of instructional development programs operating within elementary and secondary schools. Another reason might be that curriculum development has only recently been considered a function which should occur locally (Taba, 1962). In fact, courses in instructional development are typically not required as part of teacher preparation programs in most universities. Most undergraduate courses in educational technology are, in reality, courses restricted to the teaching of simple production techniques and the selection and use of commercially-produced materials. Too often the funds needed to support instructional development have been available only in post-secondary settings and in private industry. The few exceptions to this provide notable examples of our potential, but they affect few people and produce little impact upon the public schools in general. The exceptions do, however, provide models which should be examined for clues to direct us in future activities within these educational settings.

There is today within the ranks of the educational profession a rather hostile opposition to instructional development as well as to any other form of technology which might be applied to education. Many

educators dislike computers, behavior modification, mastery learning, and behavioral objectives with equal passion. We have yet to find ways of neutralizing the resistance of these educators. Until we do, they will remain a strong force opposing our efforts to produce impact (Jackson, 1966).

PRESENT PROBLEMS

Resources for instructional development are far from adequate. We do not have enough trained instructional developers to do the job that needs to be done even if we limit our efforts to university, military, and industrial situations. Many of the major contemporary problems in the field of instructional development center around the paucity of resources, human and otherwise. It is clear that our ability to impact is being severely limited. We must become innovative in the use of our present limited resources if we are to achieve our potential impact (Gustafson, 1977).

Bratton reports a trend toward the utilization of instructional development personnel who have no formal training in the field. A second trend related to resources is also reported by Bratton. He reports that many institutions have dropped their instructional development programs and that many other programs have had their budgets severely cut. As pointed out earlier, federal funding seems to be directed mainly towards the establishment of new programs with seemingly little concern as to whether they continue to exist over time. Other sources for the maintenance of on-going programs are difficult to identify and seem to be less reliable today than in the past. More than ever before we must convince administrators and the lay public of the value of our technology and of the necessity for trained personnel to implement it (Bratton). Like it or not, we who call ourselves instructional developers must begin to see ourselves as salespersons, too.

Cutbacks in funds are due not to the failure of our technology, but to an attitude on the part of administrators that instructional development is a luxury, a frill which in hard times is too expensive to be maintained (Bratton). Instructional development is more often than not the last to be hired and the first to be fired. Only we can change this deplorable situation. And if we fail to do this, we will not only be dispensable; we, ourselves, will very likely be dispensed with.

Our situation is particularly precarious with respect to the fifth condition. Several forces exist within the educational community which either diminish or potentially diminish the support we receive. Unfortunately, we function today only at the sufferance of the faculty (Kerr, 1977). And there is always the danger that administrators will use our technologies as weapons against their faculties. Many faculty

members in fact do perceive our technologies as the tools of administrator intimidation (Bratton).

Collective bargaining in education, the result of faculty-administration interaction, poses a potential threat to the general advancement of instructional development (Schaffer; Davidson, 1971). Either out of fear or lack of consideration, possible innovations can be seriously hampered through provisions of union contracts which have, on the surface, nothing to do with instructional development (Perry, 1977; Mesgill and Mesgill, 1971; Eiken, 1977).

Needed support is lacking in other more fundamental ways. We are not expected, or allowed, to carry out long-term evaluations of most of our instructional development activities. Sometimes even short-term evaluations are not possible. Consequently, many of our developmental activities become "one-shot affairs", and their outcomes cannot be presented as demonstrations of our potential. Our potential is actually lessened under these conditions, since neither project revisions nor process improvements are possible. Adequate evaluation data are simply not available (Baker, 1977).

Also, risk-taking is not encouraged, either for the instructional developer or for his clients (Oettinger and Marks, 1969). But instructional development as we know it is essentially an empirical process. It can only flourish in an atmosphere where bold experimentation is allowed. Such experimentation can occur only where failure does not endanger either the overall instructional development program or the personal careers of the instructional development staff. Certainly no faculty member is going to attempt something he doesn't have to if doing so increases the likelihood that his promotion or tenure will be adversely affected (Perry, 1977).

According to Bratton, instructional development programs at different institutions do not lend each other adequate mutual support. A network for the exchange of information and products is needed (Dixon, 1978). A network of this sort could facilitate inter-institutional cooperation considerably. Some cooperation and information exchange admittedly takes place now. However, it occurs only sporadically and through personal contacts usually at conventions.

Our own profession, regrettably, provides inadequate support for our programs. Educational technology has yet to decide whether it exists primarily to nurture innovations or to support the traditionally-based classroom operating on the "cottage industry" model. Much of the field of instructional development has remained service-oriented (Kerr, 1977). This implies, among other things, an orientation which says that to get along we must go along. Ours is that branch of education which deals with technology, but its manner of doing so leaves much to be desired. Our field is not normally one which originates

and promotes changes, but one which services those changes initiated by others. This posture places us in the roles, not of change agent or pacesetter, but follower and perpetuator of the status quo. As a professional group, we often appear to be disinterested in providing technological solutions to the problems of those who have not yet learned to come to us for assistance. Until we begin to provide these services and solutions, we will not achieve our full potential impact.

Within the ranks of our profession, much of the energy which could be useful in supporting institutional instructional development has been dissipated in in-house bickerings over the details of organizational structure. This sort of hassling has undoubtedly reduced our impact upon the processes of education (Terrell and Braden; Gustafson, 1977).

THE FUTURE OF THE INSTRUCTIONAL DEVELOPMENT MOVEMENT

What, then, can be said about the future of the instructional development movement? The movement will continue to expand its influence and increase its impact within the educational community, or it will be considered by the rest of that community to be expendable (Hoban, 1974).

We must incorporate the findings of developmental psychology, behavioral psychology, moral education, interactive instructional design, and other innovative developments into our expertise. As this occurs, we will be able to exert an increasingly greater influence upon the pre-school and elementary area of education (Wilson; Kohlberg and Mayer, 1972).

We must cease in the future to be mere service providers. We must become true innovators in our own right, developing ways of introducing innovative technologies to those professionals and students who can benefit from them (Hoban, 1974). Our ultimate commitment is not to the teacher or to the administrator, but to the student (Braden and Terrell). This fact should cease to be a purely academic consideration and should begin now to influence the way we design learning systems (Kaufman, 1977). We can no longer afford to wait idly until the world beats a path to our doors for help. We must, in the future, find new and better ways to improve the educational system wherever the system needs improvement. More and more of the leadership required to do this must be assumed by us.

We must begin to take the necessary steps to educate the general public and the professional educational community concerning our potential to be of service (Gustafson, 1977; Educational Technology Staff, 1967).

We must, as Terrell and Praden have pointed out, educate more classroom personnel in those instructional development techniques which they themselves can use.

Organizations such as AECT must, in the future, become increasingly united behind goals related to the diffusion of technology in general and instructional development in particular. AECT must devote a greater part of its energies to promoting educational change (Gustafson, 1977).

We must promote risk-taking projects which represent pioneering efforts in the application of technology to education. We must not hide our failures; in fact, more of our failures should be publicized in our journals. Reading today's journals one gets the distinct impression that everything we do is a table-thumping smash, an unqualified success. But we ourselves know better (Bratton; Oettinger and Marks, 1969), and we must realize that failures provide knowledge which can lead to later success.

In summary, we must:

1. Create new solutions to old problems in all areas of education;
2. Create an expanding awareness of our potential throughout the educational and lay communities;
3. Demonstrate to those who are already aware of our potential how that potential can be used to their advantage;
4. Ensure that resources are available for long-term, high-risk activities, for evaluation, for research, and for the in-service "cross-training" of professionals from other specialties and disciplines; and
5. Educate those who control our institutions and our profession in those skills, duties, and roles which they must exercise on our behalf if we are to achieve our potential impact.

These, then, are some of the things we must do in the future if we are to achieve that full measure of impact which we are capable of achieving. We feel that we have the courage and the determination to take the steps necessary to increase the impact of our technologies upon the educational world. If we do take them, we see a bright future for instructional development and the whole of education.

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